

B² 3. (Twice Amended) The method of claim 2, wherein said waveforms are configured to mimic generally the underlying electrical activity of the [said] target tissue.

12² (Amended) [The method of claim 1] A method for treating a disorder selected from the group of physiological, neurological and behavioral disorders, said method comprising applying to a subject a specific low frequency pulsed magnetic field (Cnp) having a plurality of intermittent waveforms, for a time effective to produce a desired effect in a target tissue and wherein the frequency of said waveforms decrease over time.

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10. (Amended) The method of claim 1 wherein the frequency of said waveforms increase or decrease over time.

B⁴ 14³ (Twice Amended) The method of claim 1, wherein said waveforms have amplitudes and DC offsets selected in relation to the [said] target tissue.

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14. (Amended) A method of treating physiological, neurological and behavioral disorders comprising the step of subjecting target tissue to intermittent specific time varying low frequency magnetic fields for a duration effective to produce a desired effect, said intermittent magnetic fields being separated by refractory periods[.], and wherein said ^{intermittent} ~~intermittent~~ magnetic fields initially entrain the electrical activity of said target tissue and as a result affect the endogenous electrical activity of said target tissue.

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16. (Amended) The method of claim 15, wherein said waveforms are configured to mimic generally the underlying electrical activity of the [said] target tissue.

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18. (Amended) [The method of claim 15] A method of treating physiological, neurological and behavioral disorders comprising the step of subjecting target tissue to

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intermittent specific time varying low frequency magnetic fields for a duration effective to produce a desired effect, said intermittent magnetic fields being separated by refractory periods and having waveforms configured relative to the target tissue and wherein the frequency of said waveforms decrease over time.

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19. (Amended) The method of claim [15] ²⁰14 wherein the frequency of said waveforms increase or decrease over time.

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20. (Amended) The method of claim 14, wherein said refractory periods are fixed at a duration relative to the [said] target tissue.

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21. (Amended) The method of claim ²⁰15, wherein said waveforms have fast rise times and are configured to stimulate firing of axons in the [said] target tissue.

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23. (Amended) The method of claim ²⁰15, wherein said waveforms have amplitudes and DC offsets selected in relation to the [said] target tissue.

Please add the following new claims:

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24. The method of claim 1, wherein said low frequency pulsed magnetic field (Cnp) is designed with a built in delay to reduce excitation in said target tissue.

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25. The method of claim 4, wherein said latency period is progressively lengthened to reduce the burst firing rate of endogenous electrical activity of said target tissue.

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26. The method of claim 4, wherein said latency period is progressively shortened to increase the burst firing rate of endogenous electrical activity of said target tissue.

27. The method of claim 4, wherein said latency period is moderated differently in sequential waveforms to simultaneously target a number of different tissues.

28. The method of claim 1, wherein a static magnetic field offset is applied to said target tissue.

29. The method of claim 1, wherein said method additionally comprises simultaneously applying a specific low frequency non-magnetic pulsed field to said target tissue, said specific low frequency non-magnetic pulsed field being selected from the group consisting of light, electrical fields, acoustic waves and peripheral stimulation of nerve receptors.

30. A method for treating a disorder selected from the group of consisting of physiological, neurological and behavioral disorders, said method comprising applying to a subject a specific low frequency non-magnetic pulsed field for a time effective to produce a desired effect in a target tissue.

31. The method of claim 30, wherein said specific low frequency pulsed non-magnetic field is selected from the group consisting of light, electrical fields, acoustic waves and peripheral stimulation of nerve receptors.

IN THE SPECIFICATION

In accordance with 37 CFR 1.72(b) enclosed herewith is an abstract on a separate sheet.

Remarks

INFORMATION DISCLOSURE STATEMENT

The Examiner indicated that German patent nos. 3331976 and 3938920 as well as French patent no. 2533131 were not considered because they are not in English and the Applicant did

not provide a concise explanation of the relevance of these documents. All of these patents only refer to the general state of the art of magnetic fields and are not relevant to the presently claimed invention. Furthermore, DE 3938920 corresponds to U.S. 5,084,003 and FR 2533131 corresponds with CA 1237783. Copies of these corresponding English versions of the patents are enclosed herewith for the Examiner's consideration.

Claim Status

Claims 1-31 are now before the Examiner. Claims 1, 3, 9, 10, 13, 14, 16, 18, 19, 20, 21 and 23 have been amended. New claims 24-31 have been added and are supported by the application as filed.

CLAIM REJECTION – 35 USC 112

The Examiner rejected claims 3, 13, 15, 16, 20, 21 and 23 under 35 USC, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. To overcome this rejection, the Examiner has suggested that the word "said" be replaced with "the" before "body part". In accordance with the Examiner's suggestion, claims 3, 13, 16, 20 and 23 have been so amended. Claim 15 has been cancelled thus rendering the rejection of this claim *moot*.

The Examiner rejected claim 7 under 35 USC, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner asserts that the reference to the figures renders the claim indefinite as it is impossible to determine the scope of the claims. The Applicant respectfully disagrees with the Examiner. One skilled in the art with a reading of the entire specification would clearly understand that the particular Cnp is that as represented in Figures 1, 3 or 5 and that this includes the entire waveform as shown in the Figure and described in the specification especially since the invention is directed to such specific Cnps and these figures represent certain Cnps designed to target a specific tissue.

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CLAIM REJECTIONS – 35 USC 102

The Examiner rejected claims 1-6, 8, 10, 12, 14-17, 19-20 and 22 under 35 USC 102 as being anticipated by GB Patent Application 2 270 000A. The Applicant respectfully disagrees with the Examiner and offers the following rebuttal of the rejection.

GB Patent Application 2 270 000A teaches an apparatus for providing low frequency, pulsed magnetic fields to living tissue. The produced magnetic field comprises AC waveforms that only approximate the electrical activity of a body. A typical waveform is shown in Figure 5 which shows an irregular type of pulsed field which comprises pulses of irregular amplitudes and frequencies as well as a portion that appear to be an irregular latency period, as indicated by the Examiner. There is no labeled axis for the waveform of Figure 5. This reference only very generally mentions that the waveforms may be changed over time for therapeutic treatment of tissue. Furthermore, this reference does not specifically characterize the waveform but rather is more focused on the apparatus.

In contrast, in the presently claimed invention, specifically designed low frequency pulsed magnetic fields such as those shown in Figures 1, 3 and 5 are generated that comprise a plurality of intermittent waveforms. These waveforms are well characterized with respect to their form and function in comparison to the irregular forms taught by GB 2 270 000. The waveforms are designed to initially entrain the electrical activity of the target tissue to affect the endogenous electrical activity of the target tissue. These features are not taught or suggested by GB 2 270 000. The irregular waveforms as taught in this cited patent can only approximate the electrical activity of the body and do not entrain the electrical activity of the body in order to affect endogenous electrical activity. As a result, the method of the present invention provides the Cnp in a controlled and targeted manner which results in few if any side effects and in fact may reduce side effects as seen with conventional types of treatments for various conditions.

As the cited reference does not teach all of the features as recited in claims 1 and 14 this reference cannot anticipate these claims or claims dependent therefrom.

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Claim Rejections – USC 103(a)

The Examiner rejected claims 11, 13, 21 and 23 as obvious in view of the combined teachings of GB 2 270 000 and U.S. 3,678,337. Again, the Applicant respectfully disagrees with the Examiner.

U.S. 3,678,337 teaches an environmental control apparatus which recreates indoors electric and magnetic fields which occur naturally out-of-doors. By virtue of the 337' patent disclosing waveforms with fast rising times, does not render obvious the invention as claimed in claims 11, 13, 21 or 23. Merely combining this 337' teaching with that of GB 2 270 000 does not provide the claimed invention of claims 11 and 21 because these claims encompass those elements as recited in the claims from which they depend. Therefore, these claims incorporate the novel and unobvious features of claims 1 and 14 which include that the Cnp initially entrains the electrical activity of the target tissue and in this manner affects the electrical activity of the target tissue. GB 2 270 000 merely teaches that the so-produced waveforms may approximate the natural electrical activity of a body. This is different from producing and using a waveform that initially entrains the electrical activity of the target tissue. The present invention results in waveforms that are more specific with respect to the target tissue and as a result have a better physiological effect that is desired without any unwanted side effects. These advantages are not realized by the teachings of the cited references.

The same argument is true with respect to the rejection of claims 13 and 23 and therefore it is asserted that these claims are also unobvious in view of the combination of the teachings of the cited art.

ALLOWABLE SUBJECT MATTER

The Examiner is thanked for indicating claims 9 and 18 to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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